

WHAT IS CLAIMED IS:

1. A motor control apparatus for vector-controlling a DC brushless motor with a motor control CPU based on a motor rotation angle detected by 1-phase excitation 2-phase output type resolver, comprising:

a trigger means for outputting a trigger signal based on an excitation signal of the resolver;

a holding means for holding at least 2-phase current signals of 3-phase current signals composed of phase U, phase V, phase W for driving the DC brushless motor and cos phase signal outputted from the resolver based on the trigger signal;

an acquiring means for acquiring q-axis current instruction value of d-axis, q-axis current instruction values to be converted to the 3-phase current signals; and

a determining means that determines whether the motor control CPU is normal or abnormal based on consistency or inconsistency of the polarity signs introduced from the relation based on a predetermined expression among the cos phase signal, the q-axis current instruction value and the 2-phase current signals and outputs its determination result as determination information, wherein

the trigger means, the holding means, the acquiring means and the determining means are constituted of a logic circuit functionally independent of the motor control CPU.

2. The motor control apparatus according to claim 1 wherein the determination information is outputted when the d-axis current instruction value of the d-axis, q-axis current instruction values is substantially zero or zero.

3. The motor control apparatus according to claim 1 or 2 wherein the trigger means outputs the trigger signal when the excitation signal is $\sin(\omega t) = 1$ or $\sin(\omega t) = -1$.

4. The motor control apparatus according to claim 1-3 wherein the 2-phase current signals is "U-phase current signal and V-phase current signal" or "U-phase current signal and W-phase current signal" of the 3-phase current signals.

5. A vehicle steering apparatus that controls the drive of

an assist motor based on the steering condition of a steering wheel and controls the steering angle of steered wheels by the drive force of the assist motor or by compensating the drive force, the assist motor being controlled by the motor control
5 CPU of the motor control apparatus described in claim 1-4, the motor control CPU being taken as a determining object by the determining means, wherein
if determination information indicating that the motor control CPU is abnormal is outputted by the determining means, the drive
10 control of the assist motor by the motor control CPU is canceled.